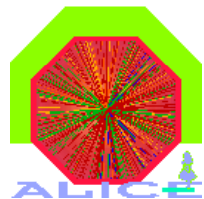
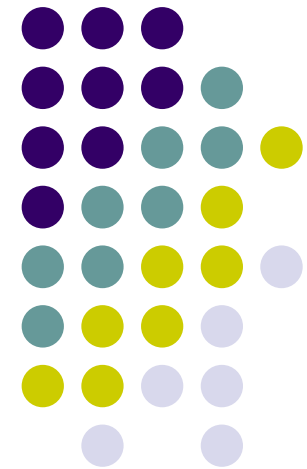


ALICE SAM Framework

Patricia Méndez Lorenzo
ALICE Offline Week
CERN, 13th July 2007





Outlook

- SAM and FCR: General Implementation
- SAM for ALICE: Requirements and Implementation
- SAM in MonaLisa
- Alarm System
- Summary

SAM and FCR Infrastructure



- **SAM: Service Availability Monitoring**
 - Grid Services Monitoring System **updated each 2h**
 - Publication of the status of each Grid service based in
 - standard tests defined by services team
 - **special test suites defined by VOs**
 - Filtered by VOs and visible for all VO members
- **FCR: Freedom of Choice for Resources**
 - Access to the services tests
 - Availability to “black” or “white” sites that should appear in the VO BDII
 - Access ensured to certain persons only
 - **Definition of Critical Tests**
 - VO based decision



SAM and FCR for ALICE

- SAM
 - Used as monitoring system to check VOBOXES
 - We establish a new infrastructure onto SAM to fulfilled ALICE requirements
- FCR
 - Not used to black list any site
 - ALICE has already its own mechanism
 - Set up for CEs and VOBOXES
 - For CEs we assume the test suite defined by the SAM developers and we set all sites to YES
 - For VOBOXES we use it to define the list of Critical Tests

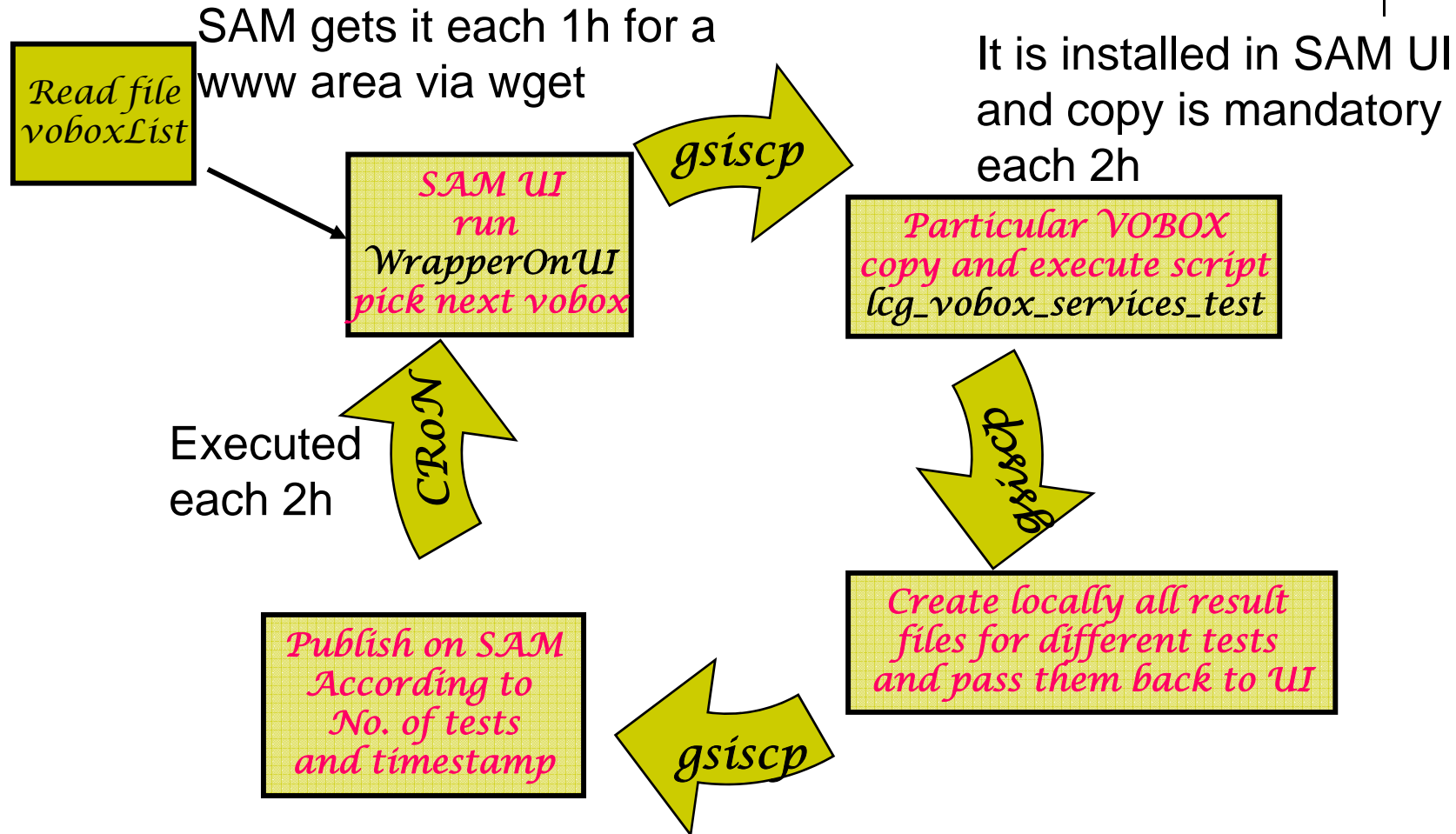
SAM is used for VOBOXES, FCR just a support of SAM for CT

ALICE Requirements for SAM

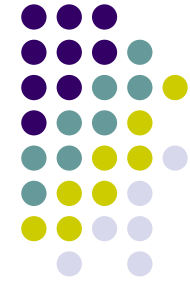


- Implementation for VOBOXES
 - SAM developers implemented special sensors for VOBOXES
- Complete freedom; ALICE decides:
 - The test suite to run in VOBOXES
 - The VOBOXES to check
 - The Critical Tests set
 - All these parameters can be changed at any moment
- Implementation and visualization in MonaLisa
 - Interface SAM-MonaLisa
- Alarm system
 - Direct notification of problems to the sites

SAM Implementation for VOBOXES



Registration of VOBOXES in SAM



- VOBOXES have to be registered in SAM DB in order to be monitored. This excludes:
 - Native Alien Sites
 - Several sites which have not yet been registered in the GOADB
- SAM developers implemented a registration procedure which ensures the freedom required by ALICE
 - ALICE creates the list of VOBOXES and put it in a www area
 - This list can be changed as much as needed
 - Each 1h a tool read that file and register new entries
 - Also deletes old entries not monitored for 1 week

The control wrapper in detail



- Installed in the SAM UI
- Set of tools to manage the control of the test suite execution
 - Take the VOBOXES names from the list included in the www area
 - Launch the test suite to each site
 - Collect the results back
 - Publish the results in SAM
 - Executed each 2h as a cron
 - Ensure timeouts in the case a VOBOX is not accessible
 - All operations are grid-certificate based
 - The user proxy is also refreshed by the SAM cron



The test suite

- Included in *lcg_sam_vobox_test* placed in SAM UI
 - This script can be modified at any moment
 - the control wrapper copies it each time to all VOBOXES and also executes it
- Collects the results locally following a SAM readable infrastructure

```
testName: VOBOX-gsiscp
testAbbr: gsc
testTitle: Status of the gsiscp service
```

Definition file

```
envName: VOBOX-12345
```

Env file

```
nodename: vobox.ct.infn.it
testname: VOBOX-gsiscp
envName: VOBOX-12345
voname: alice
status: 10 (10="OK")
detaileddata: ...
```

Results file

10: OK

40: Warning

50: Error



List of tests included

- Tests checking proxies issues
 - Proxy renewal service of the VOBOX
 - User proxy registration
 - VOBOX registration within the MYPROXY server
 - Proxy of the machine
 - Duration of the delegated proxy
- Tests checking UI and services features
 - Access to the software area
 - JA tests (NEW)
 - Status of the RB under used (NEW)
 - Could not be defined until the failover mechanism was not extended to all VOBOXES
 - Status of the CE (NEW)



The Critical Tests

- All previous tests can be defined as Critical Tests
 - This defines the global status of the site
 - Done via FCR (access restricted)

gRB

gRB Tests for VO ops

Test if the service host certificate is valid.

VOBOX

VOBOX Tests for VO alice

- Status of the alice-box-proxy renew service
- Status of the user proxy registration
- Status of the gsiseep service
- Status of the Proxy Server Registration
- Status of the Proxy of the machine
- Status of the Proxy of the machine
- Status of the Software area access

VOBOX Tests for VO ops

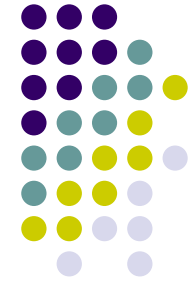
Check we can do gsishh to the node

VOBOX Tests for VO atlas

Check we can do gsishh to the node

Access to the tests defined in SAM

The SAM page



Browser window showing the SAM page URL: https://lcg-sam.cern.ch:8443/sam/sam.py?VOBOX_alice_disp_tests=VOBOX-User-Proxy-Registration&VOBOX_alice

Tests Displayed

alice

- VOBOX-Local Batch System
- VOBOX-Software-area
- VOBOX-User-Proxy-Registration
- VOBOX-Proxy-Renewal
- VOBOX-Proxy-Server-Registration
- VOBOX-gsissh
- VOBOX-Proxy-of-the-machine

show alice critical tests

Sort by: RegionName

show	stat	description	sum
<input checked="" type="checkbox"/>	NA	no status available	0
<input checked="" type="checkbox"/>	OK	normal status	29
<input checked="" type="checkbox"/>	INFO	useful information	0
<input checked="" type="checkbox"/>	NOTE	important information	0
<input checked="" type="checkbox"/>	WARN	subject may fail soon	0
<input checked="" type="checkbox"/>	ERROR	subject has failed and problem is localized	5
<input checked="" type="checkbox"/>	CRIT	subject has failed and problem is fatal	0
<input checked="" type="checkbox"/>	MAINT	subject is under maintenance	0

alice tests

testname	desc	crit
UPR	Status of the user proxy registration	CT
PR	Status of the alice-box-proxy renew service	CT
PSR	Status of the Proxy Server Registration	CT
ssh	Check we can do gsissh to the node	
PM	Status of the Proxy of the machine	CT
DPD	Status of the Proxy of the machine	
RBS	Status of the RB used for job submission	
gsc	Status of the gsiscp service	
WMS	JobAgent status tests	

No	SiteName	NodeName	Status	alice									
				UPR	PR	PSR	ssh	PM	DPD	RBS	gsc	WMS	
AsiaPacific													
1	GOG-Singapore	soursop.ngpp.ngp.org.sg	NA	na	na	na	na	na	na	na	na	error	na
2	IN-DAE-VECC-01	grid.tier2-kol.res.in	ERROR	error	ok	error	na	ok	error	error	error	error	error
3	KR-KISTI-GCRT-01	vobox.gridcenter.or.kr	OK	ok	ok	ok	na	ok	ok	ok	na	error	error
CERN													
4	CERN-PROD	lxb7281.cern.ch	OK	ok	ok	ok	na	ok	ok	ok	na	error	error
5	CERN-PROD	voalice03.cern.ch	OK	ok	ok	ok	na	ok	ok	ok	na	error	error
CentralEurope													
6	PIUDA DEST	grid156.lipn.fr	OK	ok	ok	ok	na	ok	ok	ok	na	error	error

Description of Tests and access to the code

Global status of the site based in CT



SAM and MonaLisa

- The results of SAM should be interfaced with MonaLisa
- SAM allows queries to the SAM DB to get different information
 - SAM developers created a special query for ALICE to visualize the status of the tests in ML
 - http://lcg-sam.cern.ch:8080/same-pi/last_service_status_per_site.jsp?VO_name=Alice&Service_type=VOBOX&show_details
 - This query provides the status of the site from the CT results
 - Status of all individual tests and access to the SAM page where the details of the tests are explained

SAM results in ML



Site	Delegated proxy duration	Proxy of the machine	Proxy Renewal	Proxy Server Registration	RB status	Software area	User Proxy Registration	WMS Stats	qiscp
1. Athens	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
2. Bari	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
3. Birmingham	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
4. Bologna	OK	OK	OK	OK	ERROR	OK	OK	ERROR	unknown
5. CCIN2P3	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
6. CERN-L	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
7. CERN_gLite	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
8. CNAF	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
9. Cagliari	OK	OK	OK	OK	OK	ERROR	OK	ERROR	unknown
10. Catania	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
11. Clermont	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
12. Cyfronet	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
13. FZK	OK	OK	ERROR	OK	OK	OK	OK	ERROR	ERROR
14. GRIF_DAPNIA	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
15. GSI	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
16. IHEP	OK	OK	OK	OK	ERROR	OK	OK	ERROR	ERROR
17. IPNO	OK	OK	OK	OK	OK	OK	unknown	ERROR	ERROR
18. ITEP	OK	OK	OK	OK	ERROR	OK	OK	ERROR	ERROR
19. JINR	OK	OK	OK	OK	unknown	OK	OK	unknown	ERROR
20. KFKI	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
21. KISTI	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
22. Kolkata	ERROR	OK	OK	ERROR	ERROR	OK	ERROR	ERROR	ERROR
23. Kosice	OK	OK	OK	OK	ERROR	OK	OK	ERROR	ERROR
24. LCG	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
25. Legnaro	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown

Access to the SAM page

Issue: old tests appearing



Additional monitoring system

- Provided by SAM, it monitors the ALICE VOBOXES based in the CT result only

The screenshot shows a web browser window with the URL <http://pmendez.web.cern.ch/pmendez/alice/allicereport.html#UKI-SOUTHGRID-BHAM-HEP>. The page displays a list of Alice VOBOXES and their global status in CT. The list is as follows:

VOBOX ID	VOBOX Name	Status
29	IEPSAS-Kosice	
30	FZK-LCG2	
31	INFN-BARI	
32	INFN-BLOGNA	
33	UKI-SOUTHGRID-BHAM-HEP	
34	INFN-LNL-2	
35	ru-Moscow-SINP-LCG2	
36	IN2P3-LPC	
37	IN-DAE-VECC-01	
1	ru-PNPI-LCG2	VOBOX OK
2	GSI-LCG2	VOBOX OK
3	CERN-PROD	VOBOX OK
4	RU-Protvino-IHEP	VOBOX OK
5	INFN-CAGLIARI	VOBOX OK
6	GOG-Singapore	

List of Alice VOBOXES

Global Status of the VOBOXES based in CT



The Alarm System

- The SAM developers have created a tool able to send emails and SMS to the contacts persons at each site in the case that the CT fails
- We have installed it and tested from the SAM UI at CERN: and it works (also with phones abroad)
- Its implementation is trivial: In the cron job which launch the current SAM tests suite
- It needs just a config file that contains:
 - Name of VOBOX Contact person mail Phone



Pending issues

- Improve the flexibility to delete tests and sites
 - We can decide when to include new sites and tests but the delete of obsolete ones follows a special SAM procedure
 - Wait up to one week (with no updates) to be totally removed
 - Affecting the SAM query
- Increase the alarm system to include ALICE requirements
 - Reports via GGUS
 - Flexibility depending on the site
 - Already working on this

Summary



- SAM System is *in production* to monitor ALICE VOBOXES
 - The flexibility to manage the procedure from ALICE site was the main requirement to SAM
 - Small issues still pending (deletion of old sites and tests)
 - These issues do not stop the status of production
- Still to decide the procedure to report errors and to whom